

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY CONTROL MINOR PERMIT

Permit No.: AQ0290MSS01

Date: June 2, 2005

The Department of Environmental Conservation (Department), under the authority of AS 46.03, AS 46.14, AS 46.40, 6 AAC 50, intends to issue an Air Quality Control Minor Permit to:

Owner/Operator: **Teck-Cominco Alaska, Incorporated**
3105 Lakeshore Dr.
Building A, Suite 101
Anchorage, AK 99517
Permittee: Same as Owner
Stationary Source: **Red Dog Mine /Temporary Asphalt Plant**
Location: Latitude: 68° 4' North, Longitude: 162° 50' West

The Department authorizes the Red Dog Mine to operate a Temporary Asphalt Plant.

This permit satisfies the obligation of the owner and operator to obtain a minor permit as set out in AS 46.14.130. As required by AS 46.14.120, the Permittee shall comply with the terms and conditions of this minor permit.

The project is a minor permit classified under 18 AAC 50.502(b)(1) and 18ACC 50.502 (e)(2).

John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AS	Alaska Statutes
ASTM	American Society of Testing and Materials
bhp	brake horsepower or boiler horsepower ¹
CEMS	Continuous Emission Monitoring System
C.F.R.	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
dscf	Dry standard cubic feet
EPA	US Environmental Protection Agency
gr./dscf	grain per dry standard cubic feet (1 pound = 7000 grains)
GPH	gallons per hour
GP3	The department's Asphalt Plant General Permit
HHV	Higher heating value
ID	Source Identification Number
kW	kilowatts
MACT	Maximum Achievable Control Technology
Mlb	thousand pounds
MMBtu	Million British Thermal Units
NAICS	North American Industry Classification System
NESHAPs	Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 CFR 61]
NSPS	Federal New Source Performance Standards [as defined in 40 CFR 60]
ppm	Parts per million
ppmv	Parts per million volume
PS	Performance specification
PSD	Prevention of Significant Deterioration
RM	Reference Method
SIC	Standard Industrial Classification
TPH	Tons per hour
TPY	Tons per year
Wt%	weight percent

Pollutants

CO	Carbon Monoxide
HAPS	Hazardous Air Pollutants [as defined in AS 46.14.990(14)]
H ₂ S	Hydrogen Sulfide
NO _x	Oxides of Nitrogen
PM-10	Particulate Matter [as defined in 18 AAC 50.990(70)]
SO ₂	Sulfur Dioxide
VOC	Volatile Organic Compound [as defined in 18 AAC 50.990(103)]

¹ 1 boiler horsepower = 33,472 Btu-fuel per hp-hr divided by the boiler's efficiency. Approximately 7000 Btu-fuel per bhp-hr is required for an average diesel IC engines.

Section 1. Permit Terms and Conditions

Conditions Governing the Effect of the Permit:

1. The permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for
 - a. an enforcement action,
 - b. permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or
2. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.
3. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.
4. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.
5. The permit does not convey any property rights of any sort, nor any exclusive privilege.
6. The permittee shall allow the department or an inspector authorized by the department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to
 - a. enter upon the premises where a source subject to the permit is located or where records required by the permit are kept,
 - b. have access to and copy any records required by the permit,
 - c. inspect any facility, equipment, practices, or operations regulated by or referenced in the permit, and
 - d. sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

7. The permittee shall furnish to the department, within a reasonable time, any information the department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the permittee shall furnish to the department copies of records required to be kept by the permit. The department may require the permittee to furnish copies of those records directly to the federal administrator.
8. The permittee shall certify all reports, compliance certifications, or other documents submitted to the department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and documents must be certified upon submittal. When certifying a compliance certification, the official's signature must be notarized.
9. **Authorization.** The Permittee is authorized to operate the emission units listed in Table 1 – Minor Permit Source Inventory at Red Dog Mine stationary source in accordance with the terms and condition of this permit and the minor permit application. Emission unit 7 is a non-road engine.

Table 1 – Minor Permit Source Inventory

Emission Unit No.	Equipment Type	Make/Model/ Serial No.	Protential Operation	Maximum Total Throughput of Operation	Max. Rated Capacity orMax. Design Throughput
1	Loader to Cold Aggregate Bin	Not Yet Known	336 hr/yr	38,040 tons of Aggregate	400 tph
2	Cold Aggregate Bin to Conveyor	Not Yet Known	336 hr/yr	38,040 tons of Aggregate	400 tph
3	Conveyor to Rotary Dryer	Not Yet Known	336 hr/yr	38,040 tons of Aggregate	400 tph
4	Rotary Dryer, Hot Screens and Mixer	Not Yet Known	336 hr/yr	40,000 tons of Asphalt	400 tph
5	Truck Load-out	Not Yet Known	336 hr/yr	40,000 tons of Asphalt	400 tph
6	Asphalt Cement Heater	Not Yet Known	336 hr/yr	336 hours	1.5 MMBtu/hr
7	Generator	Not Yet Known	336 hr/yr	336 hours	1000 kW
8	Aggregate Storage Piles	Not Yet Known	336 hr/yr	336 hours	400 tph

Emission unit descriptions are given for identification purposes only.

10. Requirements to Avoid Classification as PSD-Major. The Permittee shall:

- 10.1 Limit the total aggregate output of the asphalt plant to 40,000 tons. In the operating report required under Section 14 of Operating Permit 290TVP01, report to the department the total quantity of aggregate produced by the temporary asphalt plant.

11. Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from equipment listed in Table 1 – Minor Permit Source Inventory to reduce visibility through the exhaust effluent by any of the following:

- a. more than 20 percent for a total of more than three minutes in any one hour;
- b. more than 20 percent averaged over any six consecutive minutes.

11.1 For the asphalt plant, the Permittee shall monitor start-up visible emissions, for emissions units 1-6 and 8 as described in GP3, Condition 22.

12. Particulate Matter (PM). The Permittee shall not cause or allow PM emission from the asphalt plant equipment listed in Table 1 – Minor Permit Source Inventory to exceed 0.04 grains per dry standard cubic foot (gr./dscf) of exhaust gas corrected to standard conditions and averaged over three hours.

12.1 For the Asphalt Plant, the Permittee shall conduct source test as described in GP3, Condition 16.

12.2 For the Asphalt Plant, the Permittee shall operate the asphalt plant as described in conditions 17-21 of the GP3 Permit.

12.3 For the asphalt plant equipment listed in, the Permittee shall comply with monitoring, recordkeeping and reporting for liquid fuel-fired equipment as set out in Operating Permit No. 290TVP01, Section 11, and “Insignificant Sources.”

13. Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emission, expressed as SO₂, from the asphalt equipment listed in Table 1 – Minor Permit Source Inventory to exceed 500 ppm averaged over three hours. For the diesel fired asphalt equipment listed in Table 1 – Minor Permit Source Inventory, the Permittee shall comply with monitoring, recordkeeping and reporting for liquid fuel-fired equipment as set out in Operating Permit No. 290TVP01, Section 11, and “Insignificant Sources.”

5.1 The liquid fuel for the temporary asphalt plant will have a sulfur content consistent with the requirements described in condition 17.1 of Operating Permit No. 290TVP01.

14. New Source Performance Standards. If the initial performance test has not already been accomplished for the asphalt plant under 40 C.F.R. 60, Subparts A and I, comply with the requirements described in condition 20 of GP3.

15. Fugitive Emissions. The permittee shall take reasonable precautions to prevent the release of airborne particulate matter and fugitive dust from aggregate piles, conveyors and elevators, loading locations, the rotary drum, crushers, screens, baghouse ash discharge, vehicle traffic within the stationary source boundaries and other sources of fugitive dust.

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- 15.1 Asphalt plant operations will comply with applicable requirements described in GP3 condition 32 to control fugitive particulate matter emissions generated by asphalt plant operations. If the asphalt plant will be located within one mile of the nearest occupied residential structure, mining camp housing or temporary construction camp, submit to the department a dust control plan consistent with condition 32.
 - 15.2 To avoid potential fugitive metal emissions, all aggregate for the asphalt plant will be obtained from the DD2 pit and not from any existing mineralized aggregate from the Red Dog mine or mine tailings.
 - 15.3 The location for the temporary asphalt plant will be no less than 1,500 ft to the nearest occupied residential structure, mining camp housing or temporary construction camp.
- 16. Air Pollution Prohibited:** No person may permit any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.
- 16.1 The permittee shall monitor, keep records, and report for this condition as described in condition 55 of Operating Permit No. 290TVP01.

Section 2. Permit Documentation

March 24, 2005	Permit Request and Application
April 18, 2005	E-mail from Chris Menefee (Hoefler Consulting for Teck Cominco) to Tom Turner (DEC) providing update Tables and emission calculations based on 1000 kW Unit.
April 18, 2005	E-mail respond to department requested from Chris Menefee (Hoefler Consulting for Teck Cominco) to Tom Turner (DEC) providing: A) PTE vs. Assessable Emissions. B) Metal concentrates of aggregate source. C) Distances to Mine and construction camp housing.